



F-35 Lightning II Program

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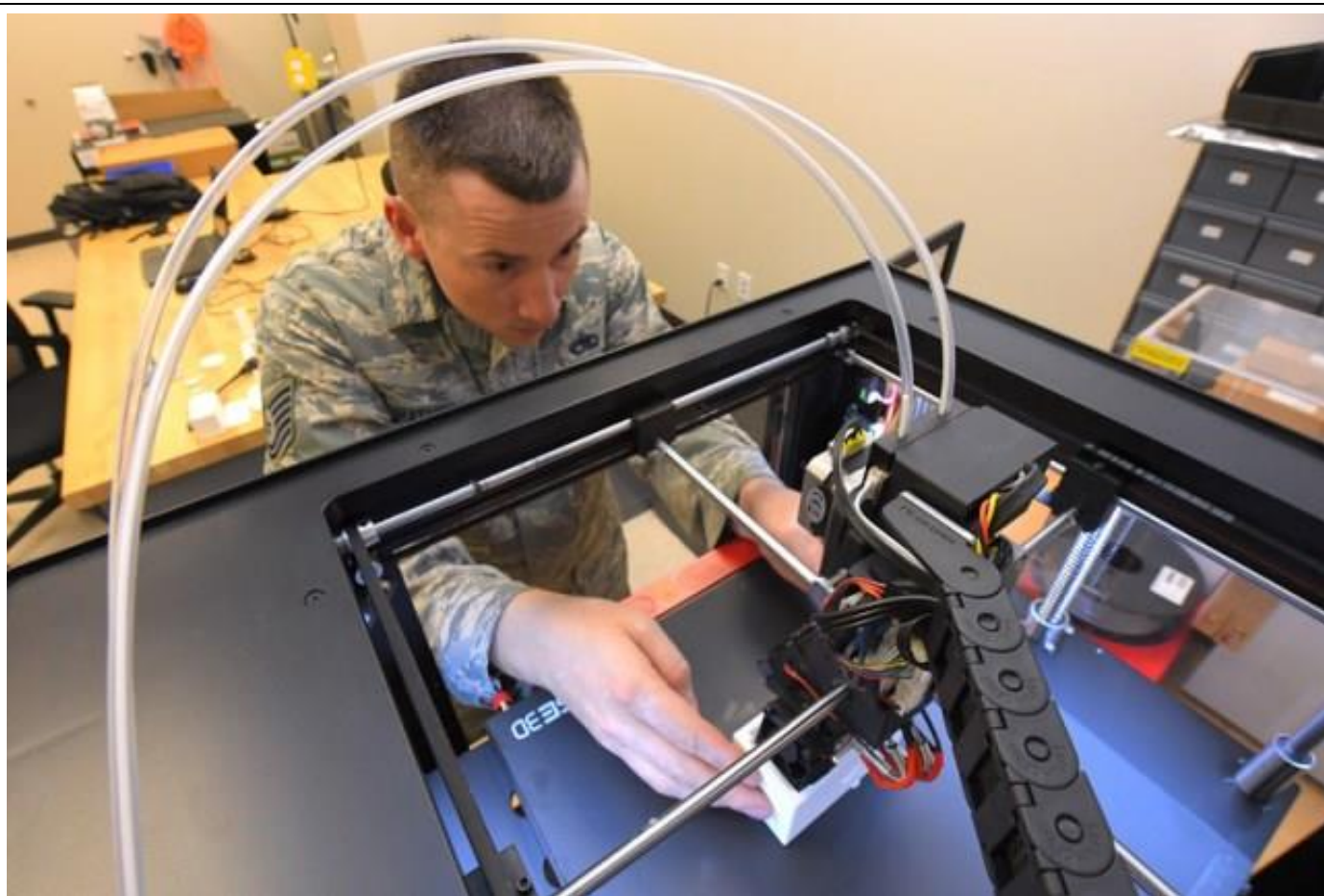
388th Maintenance Group eying future time, cost savings with 3-D printing

388th Fighter Wing Public Affairs

HILL AIR FORCE BASE, Utah -- Inside a simple-looking building just off of Hill's flight line, Airmen are tinkering with advanced technology to bring the future of cost-effective maintenance to America's most advanced fighter aircraft.

The 388th Maintenance Group's Air Force Repair and Enhancement Program shop recently acquired a 3-D printer with the hope of increasing availability and driving down costs for certain F-35 replacement parts.

"In the sortie generation cycle we're always driving for speed, safety and quality to provide our operators what they need in terms of aircraft availability and readiness, but cost-effectiveness is also a priority. This new tech has great cost-avoidance potential and provides rapid repair capabilities," said Col. Michael Miles, 388th Maintenance Group commander.



Tech Sgt. Scott Mathews, assistant manager of the 388th Maintenance Group's Air Force Repair and Enhancement program, makes adjustments to a 3-D printer the unit is experimenting with to create pieces and parts faster and more cost-effectively. The program has the potential to not only drive down cost, but increase availability. (U.S. Air Force Photo by Todd Cromar)

3-D printing, also called additive manufacturing, uses a computer-controlled machine to form automatically-fed material into a three dimensional object. In this case, aircraft parts.

“In the AFREP program, we receive parts that have been damaged and fix them so that they can be returned to the supply chain more quickly,” said Tech Sgt. Scott Mathews, assistant AFREP manager. “It’s much more cost effective for the Air Force than buying new parts.”

Maintainers are excited about 3-D printing because it could potentially save thousands of dollars for simple plastic parts like wiring harnesses, grommets, fasteners, housing boxes and cable splitters.

“Initially, it takes a time investment to create a design template, but once that’s done, the printing goes pretty fast,” said Mathews. “We’ll have the ability to make one grommet for a wiring harness instead of spending thousands of dollars and waiting on a completely new wiring harness.”

There may be some time before the team can actually provide printed parts to the maintenance shops’ supply chain. Every new parts process needs to be tested, proven and approved to ensure quality and safety before being used on an aircraft.

But, the team is looking forward to the challenge of establishing an F-35 repairable program and exploring all the possibilities that lay ahead.

“I love this job. It’s like brainstorming and troubleshooting all day long. It’s like getting paid to tinker around in the garage,” said Mathews, who is from Bremerton, Washington, and followed his older brother into a career in the Air Force.